UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,564	12/30/2004	Takeshi Saito	520.344597X00	2793

20457 7590 12/18/2006

ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 NORTH SEVENTEENTH STREET
SUITE 1800
ARLINGTON, VA 22209-3873

EXAMINER	
CHEN, JUNPENG	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 12/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/519,564	SAITO, TAKESHI	
	Examiner	Art Unit	
	Junpeng Chen	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 October 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *1-9* is/are withdrawn from consideration.

5)☐ Claim(s) *10-14* is/are allowed.

6)☐ Claim(s) *15,16,18 and 19* is/are rejected.

7)☐ Claim(s) *17 and 20* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 December 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *12/30/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 10-20 in the reply filed on 10/16/2006 is acknowledged. The traversal is on the grounds including all pending claims are not independent and distinct inventions, and searching and examining of all pending claims in the application would not be a serious burden for examination. This is found to be unpersuasive because groups I and II are independent of each other for the reason that each of group I and II does not require other group to work, and are distinct for the reason that each group is having a distinct circuit structure. Due to their independence and distinct structures, a diverse search and examination would have to be conducted for each group of the invention. Therefore, it would be a serious burden for examination.

The requirement is still deemed proper and is therefore made FINAL

2. Claims 1-9 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/16/2006.

Priority

3. Receipt is acknowledged of paper submitted under 35 U.S.C. 371, which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on 12/30/2004 has been considered by the examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 15-16 and **18-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ueno et al. (U.S. Patent 6946950 B1)** in view of **MacLellan et al. (U.S. Patent 5929779)**.

Consider **claim 15**, Ueno discloses a RFID system comprising:

a first antenna provided for a portable wireless terminal for radiating radio waves of a first radio frequency transmitter signal (read as antenna 10 of interrogator

apparatus 1 transmits CW microwave-band radio wave, Figure 1, lines 10-26 of column 22);

a second antenna for receiving the radio waves radiated from the first antenna and outputting the first radio frequency transmitter signal (read as antenna 24 of transponder 20 receives the CW microwave-band radio wave from antenna 10 an outputs CW signal, Figure 1, lines 10-26 of column 22);

a rectifier for rectifying the first radio frequency transmitter signal outputted by the second antenna and outputting a power supply (read as rectifier circuit 21 converts the received CW signal to a DC power supply, Figure 1, lines 10-26 of column 22);

an oscillator circuit for generating a signal of a particular frequency (read as oscillator 8 generating a signal of a fixed frequency, Figures 1 and 8, lines 10-19 of column 21, and lines 5-10 of column 27);

an ASK (Amplitude Shift Keying) modulation circuit for performing amplitude modulation on the signal of the particular frequency outputted by the oscillator circuit by information to be transmitted to the transponder and outputting the amplitude-modulated signal as a second radio frequency transmitter signal (read as modulator section 7 modulates the signal from oscillator 8 and the code supplied by control section 6 from memory 9, Figures 1 and 8, lines 1-19 of column 23);

a third antenna for radiating the second radio frequency transmitter signal outputted by the ASK modulation circuit (read as antenna 2 of the interrogator apparatus 1, Figures 1 and 8); and

a mixer for performing synchronous detection on a radio frequency receiver signal returned from the transponder which received a signal via the third antenna by using this signal as a carrier, and outputting data from the transponder (read as mixer 15 mixers the signal from receiving section 4 and the carrier signal from first spreading section 13, Figure 8, lines 5-15 of column 27).

However, Ueno fails to disclose the carrier signal is a modulated signal, i.e., from the modulator section 7.

Nonetheless, in related art, MacLellan discloses a similar interrogator comprising a mixer 208 for mixing the received signal with a modulated carrier signal from modulator 202, Figure 2 of MacLellan. Therefore, modifying Ueon's invention to have the first spreading section 13 following the modulator section 7 is within the capabilities of a person with ordinary skill in the art.

Therefore, it would have been obvious for a person with ordinary skill in the art at the time the invention was made to incorporate the teachings of MacLellan into the teachings of Ueno for the purpose of mixing the received signal with a modulated RF source signal.

Consider **claim 16**, **as applied to claim 15 above**, Ueno, as modified by MacLellan, discloses a coupler for extracting the part of the second radio frequency transmitter signal by coupling to the second radio frequency transmitter signal outputted by the ASK modulation circuit (read as the first spreading section 13 after incorporating the teachings of MacLellan, Figure 8); and a circulator which, being positioned between

the coupler and the third antenna, extracts the radio frequency receiver signal outputted by the third antenna discretely from the second radio frequency transmitter signal being sent to the third antenna and supplies the radio frequency receiver signal thus extracted to the mixer for performing synchronous detection (read as circulator 3, Figures 1 and 8).

Consider **claim 18**, **as applied to claim 16 above**, Ueno, as modified by MacLellan, discloses wherein the information to be transmitted to the transponder and the transponder data outputted by the mixer are supplied to the portable wireless terminal as data to be processed by the portable wireless terminal (read as control section 6 can read the codes in memory 9 and the mixer 15 outputs the mixed signal to demodulator section 5 then to the control section for processing, Figure 8, lines 1-19 of column 23, lines 5-15 of column 27).

Consider **claim 19**, **as applied to claim 15 above**, Ueno, as modified by MacLellan, discloses wherein the particular frequency of the signal is approximately equal to or higher than the frequency of the first radio frequency transmitter signal of the portable wireless terminal (read as the signals transmitted by both antennas 2 and 10 are going to the same antenna 24 in the transponder, therefore, the frequency of the oscillating signal from oscillator 8 is approximately equal to the frequency of the CW microwave-band radio wave, Figures 1 and 8).

Allowable Subject Matter

7. **Claims 10-14** are allowed.

Claim 17 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reason for Allowance

Consider **claim 10**, the best references on file from examination, **Ueno et al. (U.S. Patent 6946950 B1)** in view of **MacLellan et al. (U.S. Patent 5929779)**, fail to disclose, teach or suggest that *a divider for dividing the first radio frequency transmitter signal outputted by the second antenna; a rectifier for rectifying one of the first radio frequency transmitter signals outputted by the divider and outputting a power supply* while an ASK (Amplitude Shift Keying) modulation circuit for performing amplitude modulation on the other of the first radio frequency transmitter signals outputted by the divider by information to be transmitted to the transponder and outputting the amplitude-modulated signal as a second radio frequency transmitter signal; a third antenna for radiating the second radio frequency transmitter signal outputted by the ASK modulation circuit; and a mixer for performing synchronous detection on a radio frequency receiver signal returned from the transponder which received said second radio frequency transmitter signal via the third antenna by using part of the second radio frequency transmitter signal as a carrier, and outputting data from the transponder.

Therefore, **claims 10-14** of the present application are considered novel and non-obvious over the prior art and, consequently, are allowed.

Consider **claim 17**, **as applied to claim 16 above**, Ueno, as modified by MacLellan, discloses that the third antenna, the rectifier, the oscillator circuit, the ASK modulation circuit, the mixer, the coupler and the circulator are formed in a unitary structure but fails to discloses the second antenna is also in this unitary structure.

Therefore, claim 17 of the present application is considered novel and non-obvious over the prior and, consequently, is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Consider **claim 20**, **as applied to claim 15 above**, Ueno, as modified by MacLellan, discloses wherein the second antenna has a cylindrical structure with a built-in antenna coil and an internal diameter of the second antenna is such that the first antenna is insertable in the second antenna to come into close contact with the second antenna

Therefore, claim 17 of the present application is considered novel and non-obvious over the prior and, consequently, is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Shober; R. Anthony	US 5952922 A	In-building modulated backscatter system

AKIYAMA, KOJI et al.	JP 09090028 A	MOVING OBJECT IDENTIFYING DEVICE
SUGAWARA, KAZUHIRO et al.	JP 07181254 A	SAFETY SYSTEM OF CONSTRUCTION MACHINE
Hirata; Tatsuya et al.	US 5247305 A	Responder in movable-object identification system
TOKUDA, MASAMORI et al.	JP 05126945 A	DATA TRANSMITTER AND INTERROGATOR USED THEREFOR
SASE, KATSUMI et al.	JP 57106882 A	DATA TRANSMITTING DEVICE
Meyers; Thomas D. et al.	US 4068232 A	Passive encoding microwave transponder

4. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Junpeng Chen whose telephone number is (571) 270-1112. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Junpeng Chen
J.C./jc

December 5, 2006

EDAN ORGAD
PATENT EXAMINER/TELECOMM

Edan Orgad 12/4/7